ENVIRONMENTAL PROTECTION AGENCY

"Green Transport Initiative - Idle Reduction Demonstration Projects to Reduce Emissions and Fuel Consumption from Long-Duration Idling Trucks and Locomotives: Requests for Applications"

AGENCY: Environmental Protection Agency (EPA)

ACTION: Notice

SUMMARY: This Notice announces the availability of funds and solicits proposals from national, non-profit organizations involved in transportation/air quality issues, for demonstration projects with private truck and/or locomotive companies that will reduce long-duration idling emissions throughout the United States. EPA seeks proposals that advance the use of idle reduction technologies, such as mobile technologies that provide, or allow for, air conditioning, heating, and/or electrical power, which will reduce or eliminate the need to use the main propulsion engine during long-duration rest periods. To this purpose, EPA will make available financial assistance ranging up to $200,000 to each recipient, in the form of cooperative agreements.

CATALOGUE OF FEDERAL DOMESTIC ASSISTANCE NUMBER:

66.034

DATES: The deadline for submitting Final Proposals is **September 23, 2002** (that is, they must be postmarked by that date). To allow for efficient management of the competitive process, OTAQ is requesting eligible organizations to submit an informal Intent to Apply by **August 26, 2002**. (Instructions for submitting Intents to Apply and final proposals are found in Section IX. below.) Submission of an Intent to Apply is optional; it is a process management tool that will allow OTAQ to better anticipate the total staff time required for efficient review, evaluation, and selection of submitted proposals.

QUESTIONS/COMMENTS: All questions or comments must be communicated in writing via regular U.S. mail, facsimile, or electronic mail to the persons indicated in "For Further Information Contact" below. The deadline for submitting questions or comments is **September 18, 2002.** Responses will be posted on EPA's web site at "www.epa.gov/otaq/rfp".

FOR FURTHER INFORMATION CONTACT:

Paul Bubbosh, US EPA Office of Transportation and Air Quality, 1200 Pennsylvania Ave., NW (MC 6405J), Washington, DC 20460. Telephone (202) 564-9322; Fax (202) 565-2057; or email Bubbosh.Paul@epa.gov

- or -

Han Lim, US EPA Office of Transportation and Air Quality, 1200 Pennsylvania

Ave., NW (MC 6405J), Washington, DC 20460. Telephone (202) 564-9286; Fax (202) 565-2057; or email Lim.Han@epa.gov.

SUPPLEMENTARY INFORMATION:

Eligible Entities: Eligible entities will only include national, non-profit organizations actively involved with transportation (truck and/or locomotive) and/or air quality issues. By "national", EPA seeks organizations that have an extensive network of contacts with constituents located throughout the country, and not just in one region or State. "Non-profit" is defined by OMB in Circular A-122 (http://www.whitehouse.gov/omb/circulars/a122/a122.html). Such organizations must be interested in undertaking demonstration projects with trucking and/or locomotive companies for the purpose of reducing long-duration idling. Eligible organizations must already be engaged in some form of partnership with truck and/or locomotive private companies related to transportation and/or air quality issues. EPA particularly desires that national associations apply, in the expectation that their proposals would have a high potential for coverage among private trucking and/or locomotive companies throughout the country.

Title: "Green Transport Initiative - Idle Reduction Demonstration Projects to Reduce Emissions and Fuel Consumption from Long-Duration Idling Trucks and Locomotives: Requests for Applications"

Background:

In May 2001, the National Energy Policy Development (NEPD) Group issued the *National Energy Policy* (NEP). In Chapter 4 of the NEP, "Using Energy Wisely: Increasing Energy Conservation and Efficiency," the following recommendation appears:

> The NEPD Group recommends that the President direct the EPA and DOT to develop ways to reduce demand for petroleum transportation fuels by working with the trucking industry to establish a program to reduce emissions and fuel consumption from long-haul trucks at truck stops by implementing alternatives to idling, such as electrification and auxiliary power units at truck stops along interstates. EPA and DOT will develop partnership agreements with trucking fleets, truck stops, and manufacturers of idle-reducing technologies (e.g., portable auxiliary packs, electrification) to install and use low-emissions-idling technologies.

EPA's Office of Transportation and Air Quality (OTAQ) introduces this Request for Applications (RFA) to national, non-profit organizations actively involved with transportation (truck and/or locomotive) and/or air quality issues. While the NEP specifically addresses truck idling, OTAQ finds that reducing locomotive idling is consistent with the NEP's intentions, and includes locomotive idling here as a significant means of meeting the NEP's directive. It is worth noting that efforts to reduce idling also yield an array of other potential benefits

beyond emissions and fuel reductions, including reduced preventative maintenance and oil change costs, reduced noise levels, improved driver rest and health, and enhanced business/community relations.

In the area of truck idling emissions, the precise number of trucks in the country that idle is difficult to determine with accuracy. Estimates of the number of long-haul trucks with sleeper compartments range from 1-2 million. However, according to the 1997 Vehicle Inventory and Use Survey (U.S. Census Bureau), about one-half million trucks travel more than five hundred miles as their regular range of operation. Driving this distance will most likely require the Department of Transportation mandated rest period of at least eight hours. Truck drivers with a sleeper compartment in their vehicle may choose to idle their engines while resting to provide heat or air conditioning, or provide electrical power for their appliances. In cold weather, truck drivers will idle to maintain engine and fuel warmth to avoid engine cold starts which can damage the engine. Even during mild weather, truck drivers may idle for safety reasons because they prefer not to sleep with their windows open. Finally, some drivers idle due to habit.

The length of idling per year will depend on the individual truck driver's behavior such as individual sleeping patterns. As mentioned above, the mandated rest period after driving ten hours is an eight hour period. Surveys of truck drivers and fleet industry data from engine control modules confirm that eight hours is the typical rest period. The number of days the truck driver idles for long-duration periods averages about three hundred days per year. Thus, the typical truck driver

idles approximately 2400 hours per year.

The locations for idling also differ among truck drivers. Some drivers prefer the convenience of private truck stops or public rest areas. Other drivers prefer resting as close as possible to their drop-off or pick-up location, and they will idle at locations such as parking lots or on side roads.

The amount of fuel consumed at idle will depend largely on the engine revolutions per minute (rpm) and the load placed on the engine from the engine's air conditioning or heating system. The higher the rpm with air conditioning or heat operating, the greater the fuel consumption. Typical rpms at idle with air conditioning and heat operating range from 800-1000 rpm. In this range, the engine consumes about one gallon of diesel fuel per hour of idle.

Truck idling emissions can contribute considerable amounts of oxides of nitrogen (NO_x) and carbon dioxide (CO_2). In Spring of 2002, EPA concluded a comprehensive in-use idling test program. EPA tests determined that the typical truck produces about .38 tons per year of NO_x at idle and 22 tons per year of CO_2 at idle.

In the railroad industry, the reasons for idling the engines are similar to that of truck drivers. In addition, since locomotive engines do not have anti-freeze, idling in cold weather becomes a necessity. The U.S. Class I railroads have approximately 20,000 locomotives (American Association of Railroads, 2002). Many of these locomotives function as switch yard or road engines which push and pull other locomotives in designated switch yards. EPA estimates that switch yard

engines idle approximately 60% of its operating time. Emissions of NO_x and CO_2 per switch yard engine idling far exceed that of a truck. Emission testing from one Class I railroad indicates that reducing idling from a typical switch yard locomotive can eliminate approximately 5 tons per year of NO_x and 177 tons per year of CO_2, and save about 16,000 gallons per year.

Alternatives to long-duration idling do exist which will reduce the harmful emissions and conserve fuel. Companies can institute no-idling policies, provide bonuses to drivers to reduce idling, and improve logistical management so trucks will not need to wait and idle when loading or unloading. However, some trucks and locomotives will need to idle. For example, during Winter and Summer months truck drivers and locomotives will need to idle their engines for cab comfort and engine protection. For these situations where idling is necessary, available idle reduction technologies should be used. For example, the use of smaller engines to provide the air conditioning, heat, or electrical power are far more economical and less polluting than using the main propulsion engine for cab comfort and engine protection. Another example involves the use of electrified truck stops. For these locations, trucks will need to be equipped with inverter/chargers and electric HVAC systems. Other examples of alternative technologies exist, such as thermostat controlled engine start-up and shut-down systems and direct-fired heaters.

The alternative technologies have been available to the trucking and locomotive industry for many years; however, their market penetration averages

less than 1%. Cost has been cited as the greatest deterrent to the purchase of these technologies. Even when the pay-back period has been demonstrated to be less than three years, trucking and locomotive companies have not had the up-front capital to purchase these technologies.

Therefore, OTAQ seeks to support demonstration projects, ranging up to $200,000 per award (depending upon the project proposal) and other assistance. OTAQ intends that the cooperative grants will go to national, non-profit organizations to assist trucking and/or locomotive companies in installing and using idle reduction technologies. Through this Notice, OTAQ seeks proposals in support of voluntary, consensus-supported agreements to reduce long-duration idling through use of idle reduction technologies. OTAQ encourages applicants to explore innovative approaches that seek partnerships which include financial participation and re-investment of savings from private truck and/or locomotive companies.

Funding for cooperative agreements awarded in this RFA comes under the authority of Section 103(b)(3) of the Clean Air Act. In addition to the applicant eligibility requirements discussed herein, the Agency must assure that a proposal selected for funding meet two "threshold determinations" for funding; in this context:

- It must address the causes, effects, extent, prevention, reduction, and elimination of air pollution–in short, it will act to control pollution; and
- It must consist of such activities as research, investigations, experiments,

demonstrations, and similar activities that are within the scope of Section 103(b)(3) of the Clean Air Act.

Demonstration projects with truck and/or locomotive companies to reduce idling will comply with the above threshold determinations. First, reducing idling will eliminate air pollution; and second, demonstration projects are consistent with the accepted activities.

Contents by Section

Section I. Overview and Deadlines

A. Overview:

In this notice, OTAQ is soliciting proposals from national, non-profit organizations to work with truck and/or locomotive companies to install and use idle reduction technologies to achieve emission and fuel reductions. Long-duration idling in trucks and locomotives has become the norm for business operation. However, idling emits pollutants, consumes fuel, increases engine maintenance costs, produces noise, and may create operator rest and health problems. These disadvantages can be reduced, or eliminated entirely, through the use of an idle reduction technology.

Several idle reduction technologies are currently available but have not yet gained significant market penetration. The cost of these technologies has been cited as a major cause for the lack of market penetration, but other problems have been cited. These include weight, space, warranty, Federal Excise Taxes, durability, maintenance, and the lack of electrification infrastructure at public and private rest areas.

OTAQ is interested in proposals that assist trucking and locomotive companies in installing and using idle reduction technologies. The proposals should focus on identifying partners that are willing to participate financially and re-invest savings derived from using idle reduction technologies.

Moreover, OTAQ is especially committed in this competition to support efforts to engage large fleet companies that operate in or through areas with poor

air quality. Truck stops and switch yards can be found in many parts of the country, but high concentrations of these locations tend to appear in areas considered "environmental justice" (EJ) communities, that is, low income, minority neighborhoods. An important aspect of the evaluation of proposals will be an assessment of their potential effectiveness in reducing the air emissions in EJ neighborhoods.

B. What are the deadlines for this competition?

In order to efficiently manage the selection process, OTAQ requests that an informal "Intent to Apply" be sent by **August 26, 2002** to the contact names listed under "For Further Information Contact." An "Intent to Apply" simply states in the form of electronic mail, telephone, or facsimile that your organization intends to submit a proposal to be received by the deadline. Submitting an "Intent to Apply" does not commit an organization to submit a final proposal. The "Intent to Apply" is an optional submission; those not submitting an "Intent to Apply" may still apply by the deadline.

The deadline for submitting completed final proposals (original and six copies, plus one fully-completed and signed Application for Federal Assistance, is **September 23, 2002.** The Office of Transportation and Air Quality expects to complete the Evaluation/Selection process by **October 23, 2002**.

Section II. Eligible Organizations

C. Who is eligible to submit proposals?

For the purposes of this RFA, proposals may be accepted only from national, non-profit organizations. By "national", EPA seeks organizations with an extensive network of contacts and constituents throughout the country, and not just in one region or State. EPA will give priority to proposals from national-based organizations with demonstrated experience working with the trucking and/or locomotive industry. "Non-profit" is defined by OMB in Circular A-122.

EPA encourages national, non-profit organizations that provide leadership in meeting national environmental objectives to enter into partnerships with large trucking and/or locomotive companies. Likewise, truck and/or locomotive companies are encouraged to seek out partnerships with these sorts of organizations. Note that applicants must ensure that any financial transactions with project partners comply with applicable EPA assistance regulations relating to procurement contracts, subgrants, and allowable costs contained in 40 CFR Part 30 (in the case of nonprofit organizations).

D. Why are national organizations particularly encouraged?

Regarding national organizations, OTAQ believes that such entities have unique opportunities for the identification of national trucking and/or locomotive fleets that travel interstate corridors on a consistent basis. National organizations will have the advantage of discussing potential demonstration projects with fleets in any part of the country. OTAQ wishes to encourage such organizations to step

up to the challenge of developing and promoting demonstration projects to reduce long-duration idling.

Section III. Funding Issues

E. What is the amount of available funding?

Approximately $200,000 is anticipated to be available in fiscal 2002 for this competition.

F. How many agreements will EPA award in this competition?

Subject to the availability of funds, and the quality of proposals submitted, EPA plans to fund as many as two national, non-profit organizations to work with the trucking and/or locomotive industry.

G. Are matching funds required?

No. However, the Agency will consider voluntary financial or in kind commitments of resources as an evaluation factor which maximizes the effective use of EPA seed money.

Section IV. Program Emphasis

This program is designed to provide seed money for demonstration projects to reduce long-duration idling emissions. Innovative approaches of particular interest to OTAQ encourage the installation and use of idle reduction technologies.

Elements that EPA is especially interested in seeing in proposals include the following (although strong proposals that contain elements other than these will certainly be considered):

- **Company Financial Participation** – since truck and locomotive fleets will benefit from reducing idling based on fuel and maintenance savings, EPA will give greater weight to proposals for demonstration projects that involve partnerships with companies with firm commitments to provide a portion of the funds necessary for the purchase of idle reduction technologies.
- **Re-Investment of Savings** – the demonstrated savings associated with the use of idle reduction technologies should be re-invested into the purchase of additional idle reduction technologies. The savings will derive from reduced fuel consumption and preventative maintenance costs (e.g., less frequent oil and filter changes and engine wear costs).
- **Fleets** – the proposal should seek to work with large national fleets with company owned trucks and/or locomotives that travel and idle in areas with poor air quality, and fleets that travel committed routes on a consistent basis.
- **Idle Reduction Technologies** – proposals should focus on idle reduction technologies that are installed and used on trucks or locomotives, as opposed to stationary infrastructure. The technologies fitting this description include mobile idle reduction technologies such as auxiliary

power units, direct fired heaters, inverter/chargers, and electric HVAC systems, or any combination of the above.

In addition to the examples of possible program elements mentioned above, an applicant might want to consider such elements as:

- Original Equipment Manufacturer (OEM) based technologies - the costs, installation time, and component incompatibility issues associated with the after-market retrofit of idle reduction technologies have been cited as reasons for the low market penetration of existing idle reduction technologies. An OEM based design may allow for a more fully integrated system with the truck chassis and engine, a warrantied technology, and factory level installed technology, which are important considerations for the potential success of the product in the market. This may require working with OEMs to better adapt existing technologies.
- Combined mobile and stationary technology - since some truck drivers prefer fixed locations (e.g., truck stops) and others prefer non-fixed locations (e.g., side roads), a pr technology is one that combines the ability to use a small mobile engine and truck stop electrification capability (e.g., inverter/charger and electric HVAC).
- Projects in low income, minority neighborhoods.
- Truck and locomotive companies willing to implement no-idling policies and driver bonuses for reduced idling.

Section V. Selection Criteria

Each eligible proposal (section VIII. O., below, summarizes basic requirements for eligibility) will be evaluated according to the criteria set forth below. Proposals which are best able to directly and explicitly address the primary criteria will have a greater likelihood of being selected for award in this competition. Each proposal will be rated according to how well it addresses the criteria. The criteria will be weighted by percentages as indicated below.

H. Primary Criteria

- Financial Participation (25%): demonstrates potential partnership projects with private companies with firm commitments to participate financially with the purchase of the idle reduction technology. This will be evidenced by signed commitment letters from partner companies.
- Sustainability (25%): demonstrates that project partners will re-invest savings derived from the use of the idle reduction technology for the purchase of additional idle reduction technologies.
- Air Emission Reductions and Fuel Savings (20%): demonstrates that the idle reduction technologies will reduce harmful emissions and conserve fuel when compared to the baseline of an idling truck and/or locomotive.
- Communities (20%): demonstrates that the truck and/or locomotive fleets that are part of the project travel through "environmental justice" areas in need of air emission reductions.

- Administrative Costs (10%): demonstrates that the administrative costs are kept to a minimum to ensure that more funds are directed towards assisting companies with the purchase of idle reduction technologies.

Section VI. Evaluation and Selection

I. How does the evaluation process work?

The EPA Evaluation Team will be chosen in such a way that it can address a full range of transportation/air quality matters. The Evaluation Team will base its evaluation solely on the criteria referenced in this Notice. Completed evaluations will be referred to a Selection Committee representing OTAQ staff and managers who are responsible for further consideration and final selection. Selected proposals will be submitted to EPA's grants office for final approval for award. Applicants will be notified promptly, but not to exceed 60 days, after this process concerning their proposal's status. EPA reserves the right to reject all applications and make no awards. Disputes will be handled under 40 CFR 30.63.

Section VII. Proposals

J. What must be included in the proposal?

The proposal must contain a narrative, letters of commitment from partners, and signed and completed federal assistance application forms ("Application for Federal Assistance and Budget Information"). (Please do not use binders or spiral binding for your submission.) The narrative, which should be approximately 5-10

pages in length, must explicitly address how the proposal meets each of the evaluation criteria. Again, in the course of describing how it meets the criteria, the narrative must include:

(1) a detailed project summary – description of specific actions and methods to be undertaken, and the responsible companies, including estimated time line for each task,

(2) the associated work products to be developed (e.g., partnership agreements),

(3) an explanation of project benefits,

(4) an explanation of how project outcomes (e.g., fuel and maintenance savings) will be designed for re-investment within the project partner's company,

(5) a detailed budget--clearly explain how funds will be used,

(6) a detailed explanation of how the project shall be evaluated,

(7) the projected time frame for project from initiation through completion,

(8) project contact(s) (must provide name, organization, telephone, facsimile, and electronic mail), and

(9) a description of the roles of the applicant and partners.

In addition to the narrative, the proposal should include a signed letter of commitment from each partner organization that briefly summarizes its roles and goals in the partnership.

EPA financial assistance procedures require that the official, signed, and completed federal assistance application forms ("Application for Federal Assistance and Budget Information") be submitted by all applicants with their

proposals. For those in need of guidance in filling out these forms, an Application Kit for Federal Assistance (which includes the forms) can be obtained from EPA's Grants Administration Division at (202) 564-5305. These forms can also be downloaded from the following website: www.whitehouse.gov/omb/grants/#forms. Applicants should clearly mark information they consider confidential, and EPA will make final confidentiality decisions in accordance with Agency regulations at 40 CFR Part 2, Subpart B.

VIII. Other Items of Interest

K. Does this funding expire at the end of Fiscal Year 2002? Will two-year projects be considered?

Funding does not expire at the end of Fiscal Year 2002. If a proposal with a two-year project period is submitted, OTAQ simply requires that the budget and cost estimate be designed to indicate what will be accomplished in each of the first and second years. However, the total amount of the grant does not change if the project period extends to two years.

L. May an eligible organization submit more than one proposal?

Yes. However, more than one proposal may be submitted only if the proposals are for different projects.

M. May an eligible organization submit a proposal for this fiscal year, even if the

organization were previously awarded funding under another program?

Yes. Applicants awarded funding in previous competitions may submit new proposals to fund a different project. As mentioned previously, this program is designed to provide seed money for demonstration projects. Awards will not be given to extend or supplement an ongoing program if the proposal adds nothing that is new in some significant way.

N. May an eligible organization resubmit a proposal which was previously submitted to another competition for funding, but was not selected?

Yes. However, those proposals will be measured against the evaluation criteria described above.

O. What will cause a proposal to be considered ineligible or non-responsive to this solicitation?

A proposal will be determined to be ineligible if :

- it is not submitted by a national, non-profit organization involved with transportation or air quality issues, or
- it does not satisfy the requirements for funding authorized under section 103 of the Clean Air Act (described in the "Background" section, above).

A proposal will be considered non responsive if:

- it does not address each criterion and each component outlined in Sections V. H. and VII. J., above, or

- it lacks the completed and signed forms "Application for Federal Assistance and Budget Information," or
- it is received or postmarked by the U. S. Postal Service after the deadline.

P. Will letters of recommendation or commendation help a proposal during its evaluation?

No. However, letters from partners expressing their commitment to the proposed project will strengthen an application's standing.

Q. What rules will govern performance of the cooperative agreement?

Non profit organizations receiving EPA financial assistance are subject to 40 CFR Part 30 and OMB Circular A-122.

R. What is the nature of EPA's anticipated substantial involvement in the cooperative agreement?

While the Agency will negotiate precise terms and conditions relating to substantial involvement as part of the award process, EPA expects to closely monitor the successful applicant(s) performance, collaborate during the performance of the scope of work, approve the substantive terms of proposed contracts, approve the qualifications of key personnel, and review and comment on reports prepared under the cooperative agreement. EPA will not select employees or contractors employed by the recipient(s) and the final decision on the content of

reports rests with the recipient(s).

Section IX. How to Apply

S. How does one apply?

Intents to Apply may take the form of electronic mail, facsimile or telephone call to the contacts listed under "For Further Information Contact." Include organization, contact, telephone number, and project title/subject. Please submit informal Intents to Apply by **August 26, 2002.** Submission of an Intent to Apply or a final proposal does not guarantee funding.

COMPLETED APPLICATION PACKAGES must be postmarked or received via regular U.S. mail or express mail on or before midnight **September 23, 2002** (please provide original proposal + six copies–no binders or spiral binding–plus one signed and completed "Application for Federal Assistance and Budget Information", addressed to:

1. Regular Mail

US EPA

Paul Bubbosh (MC 6405J)

1200 Pennsylvania Ave., NW

Washington, DC 20460-0001

2. Express Delivery

US EPA

Paul Bubbosh

501 3rd Street, NW

Washington, DC 20001

(202) 564-9285

--DEADLINE FOR COMPLETED FINAL PROPOSALS–

Proposals must be received or postmarked no later than midnight on

(September 23, 2002)

July 25, 2002

Margo Tsirigotis Oge, Director

Office of Transportation and Air Quality

Environmental Protection Agency